Patent claims

1. Mixture containing

A) vinylcyclohexane-based polymer and

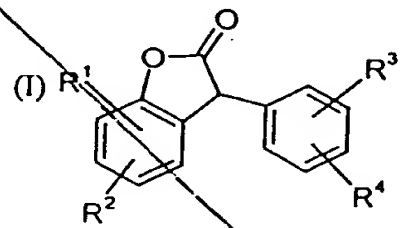
B) stabiliser system containing lactone, sterically hindered phenol and phosphite compound.

2. Mixture according to claim 1, containing 0.001 to 2 wt.% (based on the polymer used) of stabiliser system B.

3. Mixture according to claim 1, containing 0.005 to 1 wt.% of stabiliser system B.

4. Mixture according to claim 1 to 3, containing as stabiliser system the following compounds:

lactone corresponding to formula (I)



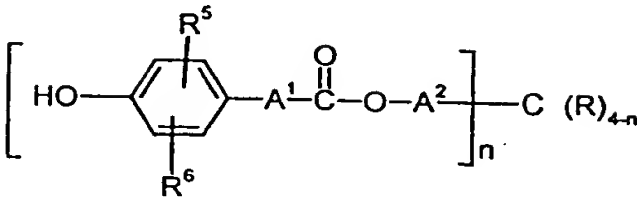
(I)

wherein

R^1, R^2, R^3 and R^4, independently of each other, represent hydrogen, C_1-C_6-alkyl, or a 5 or 6-membered ring alkyl,

sterically hindered phenol corresponding to formula (II)

(II)



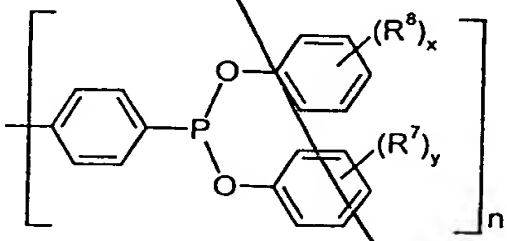
wherein

R^5 and R^6, independently of each other, represent hydrogen or C_1-C_6-alkyl, a 5 or 6-membered ring,

n represents an integer from 1 to 4, and

R, independently, represents hydrogen, C_1-C_6-alkyl, C_1-C_6-alkoxy, a 5 or 6-membered ring,

phosphite component corresponding to formula (III)



(III)

wherein

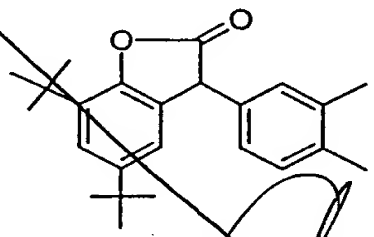
R^7 and R^8, independently of each other, represents hydrogen, C_1-C_6-alkyl, also as a 5 or 6-membered ring or as branched alkyl, and

x and y, independently of each other, represent 0, 1, 2, 3, 4, 5, and

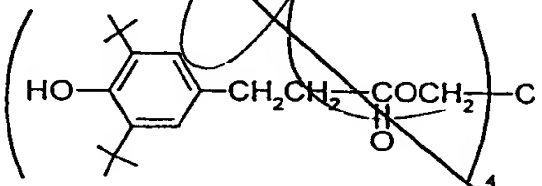
Sub A2

n represents 1 or 2, wherein if n = 1 the free valence bond of the carbon atom is attached to hydrogen, C_1-C_6-alkyl, C_1-C_6-alkoxy or to 5,6 rings.

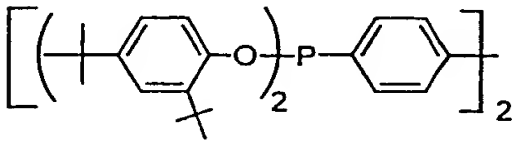
5. Mixture according to one or more of the preceding claims, containing the following compounds:



(I-1)



(II-1)



(III-1)

Sub A3

6. Mixture according to one or more of the preceding claims, wherein the stabiliser system contains

5 to 95 parts by wt. (based on component B) of compound(s) corresponding to formula I

5 to 95 parts by wt. (based on component B) of compound(s) corresponding to formula II

5 to 95 parts by wt. (based on component B) of compound(s) corresponding to formula III.

Sub A3

7. Mixture according to one or more of the preceding claims, wherein the stabiliser system contains

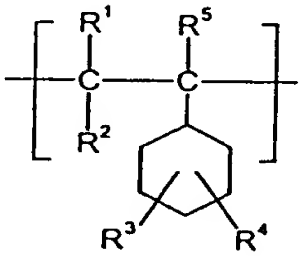
5 to 60 parts by wt. (based on component B) of compound(s) corresponding to formula I

10 to 60 parts by wt. (based on component B) of compound(s) corresponding to formula II

10 to 60 parts by wt. (based on component B) of compound(s) corresponding to formula III.

8. Mixture according to one or more of the preceding claims, containing vinylcyclohexane-based polymer or copolymer, wherein the comonomers are selected from at least one monomer of the group comprising olefins, alkyl esters of acrylic acid or methacrylic acid, unsaturated cycloaliphatic hydrocarbons, styrenes alkylated on the nucleus, α-methylstyrene, divinyl benzene, vinyl esters, vinyl acids, vinyl ethers, vinyl acetate, vinyl cyanides, maleic anhydride.

9. Mixture containing polymer according to claim 7, wherein the vinylcyclohexane-based polymer has a repeating structural unit corresponding to the formula



(I)

wherein

R^3 and R^4, independently of each other, represent hydrogen or C_1-C_6-alkyl or R^3 and R^4 together represent alkylene,

R^1, R^2 and R^5, independently of each other, represent hydrogen or C_1-C_6-alkyl.

10. Mixture according to one or more of the preceding claims, but with a predominantly syndiotactic diad configuration of the VCH polymer.

11. Mixture according to one or more of claims 1 to 12, containing additives selected from at least one of the group comprising processing aids, nucleating agents, mould release agents, dyes, pigments, stabilisers and antistatic agents.

12. Process for the preparation of a mixture according to claim 1, wherein the individual components and optionally additives are mixed and compounded.

13. Use of the mixture according to one or more of the preceding claims for the manufacture of moulded articles and films.

14. Use according to claim 13 for the manufacture of optical data carriers.

15. Moulded articles and films obtainable from mixtures according to one or more of claims 1 to 14.

16. Optical data carriers obtainable from mixtures according to one or more of the preceding claims.

17. Use of the stabiliser system according to claims 1 to 16 for the preparation of vinylcyclohexane-based polymers with improved thermostability.

Add A4